Before the

Federal Communications Commission

Washington, D.C. 20554

In the Matter of	)	
	)	
Empowering Consumers to Avoid Bill Shock	)	CG Docket No. 10-207
	)	
Consumer Information and Disclosure	)	CG Docket No. 09-158

To: The Commission

COMMENTS OF

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Introduction

About Sandvine

1. Sandvine appreciates the opportunity to provide comments in connection with the Federal Communications Commission's (the Commission) October 14, 2010 Notice of Proposed Rulemaking (NPRM), "In the Matter of Empowering Consumers to Avoid Bill Shock, Consumer Information and Disclosure" (FCC 10-80), CG Dockets No. 10-207 and 09-158.

2. Sandvine was established in 2001 and employs over 400 people in Canada, the United States, Israel and in remote offices globally. For two consecutive years Sandvine has been named by Infonetics Research as the global market share leader in the "Standalone Deep Packet Inspection market", and has been named multiple times to the Deloitte Technology Fast 500 list of fastest growing technology companies in North America.

3. Sandvine's network policy control solutions make the Internet better by protecting and improving the Internet experience for subscribers. The solutions comprise network equipment and software that help mobile, fixed wireless, cable, DSL, and FTTx operators understand network traffic and trends, mitigate network congestion, protect the quality of experience for sensitive applications, offer subscribers new services, mitigate malicious traffic, and improve customer service.

4. Sandvine's technology is used by more than 200 Internet service provider customers in over 80 countries. Together, Sandvine's customers serve more than 200 million mobile subscribers and approximately 100 million fixed line broadband subscribers. Sandvine has implemented solutions to help service providers in the EU to comply with the recent "Bill Shock" regulations passed in that jurisdiction.

5. In the NPRM, the Commission has requested comment on a variety of issues related to preventing Bill Shock to mobile Internet subscribers. Sandvine has focused its comments to just those sections of the NPRM where we believe the Company has direct experience and believes it can offer meaningful suggestions.

Comments

Real-time notifications

6. The Commission proposes that mobile providers provide notification when a subscriber is approaching their plan's allotted limit for voice, text, or data usage, and is seeking comment on whether such notifications should be provided in "real time," and how such notifications should be best implemented.

7. Sandvine submits that real time notification is a key instrument of a strategy to implement transparent data overage and/or data roaming policies. The existing technologies fully allow for real time delivery of such messages although the selection of the appropriate mechanism to deliver such is very important (see paragraph 9 below for greater detail). Complex data plan rating schemes can pose challenges to the ability of service provider to allow real time notifications. Some of the lessons learned by the EU implementation (see paragraph 14) can be used to streamline such challenges.

Multi-family plans

8. According to the principles described in paragraph 9 below, in the event where multi-line plans are enabled the following aspects should be taken into consideration.

    a. The parent account could have the option to decide how the monthly allowance is divided amongst its 'child accounts'. Providing a fixed allowance in a measurable unit (i.e. Megabytes) to each account would provide transparency and empowers each 'child account' user to decide how/when to use its allowance.

    b. The second important aspect is whether or not the master/parent account will allow the 'child account' to exceed the allowance and incur specific overages. Child accounts may not be entitled to accept overages given that the commercial relationship with the service provider typically belongs to the master/parent account. So while this option may not typically be considered, the implemented tools could allow the parent account to select specific child accounts with the right to accept overages.

    c. Assuming each child account user has its own allowance, appropriate notifications are important to ensure transparency and provide awareness to the subscriber. Whether or not these notifications would allow any interaction by the subscriber would depend on whether the child account is allowed overages, as discussed.

    d. In the event where the parent/master account exceeds its own allowance it would make sense to provide notification with all the available commercial options to continue using the service and the respective incurred overage charges.

Most effective form of notification

9. The only way to implement an effective Advice of Usage (AoU) is to support the ability to deliver messages that are sensitive to the context of access and adjust the delivery mechanism accordingly. The following aspects should be considered when implementing AoU communication.

    a. Interactivity – While delivery of the real time message achieves an important part of the communication workflow with the subscriber, providing the ability to interact with the network to choose the most appropriate response is paramount to an effective and transparent subscriber communication strategy. Different notification severities require distinct types of actions. Not all notifications may require an input from the subscriber; however use cases such as "100% monthly allowance exceeded" would typically require an immediate action from the subscriber. The ability to respond to the system with options such as 'I accept the additional charges of $X.XX/MByte' or 'I decline the additional charges and accept the reduction of my connection speed to X Kbps' are very powerful and allow both for an efficient way for a subscriber to achieve his goals while providing a low cost communication channel for the Service Provider to interact with its subscribers.

    b. Commercial context—the subscriber should be able to see usage in economic terms rather than just bytes or minutes. The communication should indicate the charge which has been levied to date, and the charges which will come in the near future.

c. Non-disruptiveness – The method for communication with subscribers should try to prevent disrupting the subscriber experience. For example, disrupting a subscriber with a usage alert that redirects a web request when he is trying to complete a web form would be unacceptable. It is crucial that the subscriber workflow is preserved allowing it to restore unfinished transactions once the subscriber replies to the usage alert.

d. Content awareness – For subscribers using a web browser, the web page redirection for notification has proven to be the most effective way to communicate with end users for several reasons, including (1) the real time aspect (2) ability to provide comprehensive information on the notification reason(s) and (3) the inherent capability to interact with the notification allowing an immediate decision to be taken. The ability to redirect the appropriate web traffic without disrupting other applications is paramount to the success of this strategy. For example, it would be unacceptable to interrupt a Voice over IP (VoIP) call for a usage alert. It is widely known that evasive internet applications (including some very popular VoIP applications) use layer 4 (port 80) characteristics to mask their identity as web traffic. A solution that cannot precisely identify applications would be subject to such misidentification and could very easily lead to interrupted voice calls, and other similar problems.

e. Device awareness – Subscribers may not be using a web browser when the specific need for notification occurs. Therefore, alternative (offline) notification mechanisms should be available. Device awareness when delivering the message is crucial to address such situations. For example, a service provider would want to avoid delivering a notification via SMS while the subscriber is using a broadband 3G modem without SMS capabilities. In an environment with increasingly complex data offerings, in which the same subscriber would access the internet from different types of devices (i.e. the same account number for both a 3G PC Modem and a regular feature phone), reliable device awareness is critical to an effective notification scheme. Device awareness can be achieved through a variety of mechanisms without interfering on the traffic flow or exposing private information from subscribers.

    - SMS notifications are still very effective mechanisms assuming the ability to identify when its utilization is appropriate. Although less interactive than customer care web pages, SMS-based systems have the ability to react to end user requests so that actions can be taken in real time. For example, service providers have implemented features to allow the subscriber to respond to incoming SMS with specific codes in order to accept or decline specific options.

    - With the advent of more advanced smart phones and their respective applications (‘Apps’), service providers are capitalizing on the opportunity to create a more personalized communication channel with their subscribers. Those ‘Apps’ can be configured to receive ‘push’ notifications from the service provider infrastructure presenting a powerful communication mechanism with the end user. ‘Apps’ allow for real time, interactive and non-disruptive notification mechanisms.

    - E-mail can still be used as an alternative mechanism for notification, particularly when smart phones and/or ‘Always On’ devices are in use. The ‘push’ technology implemented by those types of devices allow for close to real time delivery of the information.

f. Subscriber customization – To be most effective, subscribers should have the ability to configure specific options related to AoU. Because different types of users react differently to specific types of workflows, savvier users may decide to opt-out from some types of 'informational' notifications and also to select the most appropriate type of notification (SMS, E-mail, 'Apps', etc).

Fixed, minimum usage levels for notifications

10. A common, fixed, minimum, mandatory threshold that educates the entire subscriber base is an important factor in an effective AoU scheme. However, such a threshold would only be effective if the remaining allowance is still useful for the end user to finalize any pending transactions or other unfinished operations. Depending on the agreed allowance, an 80% threshold (for the sake of example) may lead to inadequate remaining data, so a lower minimum mandatory threshold may be more appropriate.

11. Because different available data plans can create dramatic variations in terms of what '80% means', the ability to notify the end user not only above the minimum mandatory threshold, but also before such level is reached is also important. Allowing the end user to select lower than the minimum mandatory notification threshold can play an important role in helping the subscriber balance the utilization of his internet services.

Tools to block overage use

12. Providing subscribers with transparent and real time access to their current utilization levels compared to the agreed limits can be a powerful tool in enabling educated decisions on how to continue consuming internet services. For example, in the event where a service provider offers 'zero-rated' applications (meaning the traffic is not counted against the agreed allowances, as is common for service provider-owned applications such as VOIP or some types of over-the-top-video) it is important to provide this level of visibility to end users on the data consumption broken down accordingly.

13. Additionally, service providers could offer the end user the ability to limit access to certain applications once a specific usage threshold is reached. For example, an end user may decide to restrict the use of bandwidth-hungry applications that it deems non-critical under the usage limit constraints.

EU Experience

14. Service Providers in the EU have implemented the concept of roaming bundles and bolt-ons to promote subscriber adoption of 'more understandable' limits for each specific service type instead of a common currency based limit, such as $50 monthly (where each service consumes the monetary units at different rates and speeds). For example, users may better understand a package combining 100 Megabytes of data, 60 voice call minutes and 60 SMS messages. Once the subscriber exceeds any of the three limits imposed by the data plan, bolt-ons are available to expand each respective allowance, e.g. $1 for additional 5 SMS messages, $5 for additional 10 Megabytes, etc. Providing more concrete 'rating' allows end users to more accurately keep track of their credits while enabling the service provider to implement more predictable charging and notification schemes.

Notification upon overage

15. In order to ensure full transparency, subscribers should be informed not only of the fact that they are beginning to incur overage charges, but also include overage rates and additional options for avoiding variable charges (for example, by purchasing bolt-ons or upgrading to higher tier data plans). Service providers could benefit from this opportunity as the added clarity may encourage subscribers to continue their services, where otherwise they would stop until a new billing cycle begins.

Subscriber opt-out

16. Opt-out is a very important functionality as described earlier. It is recommended that some types of notification are mandatory such as 100% consumption while 'warning' notification thresholds could be disabled according to each subscriber preference. Empowering subscribers to decide on the types of notification received allows the service provider to support the principle of non-disruptiveness, as discussed in paragraph 9b.

Notification of roaming charges

17. Sandvine submits that the approach to roaming charges should mirror that for data overage charges as from a subscriber perspective the effect is identical. The mechanisms to allow for real time notification are readily available and should not substantially increase the complexity of the implementation. The notification factors discussed under paragraph 9 with respect to data overage charges apply when designing a roaming charge notification scheme as well. The alerts should apply to any situation, domestic or international, where roaming charges can be incurred and should come with an opt-out feature.

Technical feasibility

18. Mobile and fixed data technology allows for implementation to be executed without the need to add any complexity to the existing cooperation and roaming agreements. We believe that the very same methodology implemented for data overage (as described above) should be made available for roaming circumstances.

Frequency of alerts

19. As with data overage charges, the ability to allow subscribers to configure the frequency of notification would be the strongly preferred strategy. Users that are constantly roaming may choose to only be notified at 80% while less frequent travelers may choose a more conservative notification approach where every attempt to access data causes a notification trigger. Interactive notification mechanisms such as 'Apps' and web pages (as described earlier) allow for simple modification of the notification options.

Implementation timeframe

20. The length of implementation is primarily dictated by the complexity of service provider offerings, although industry vendors have created toolkits to address most of the standard requirements within reasonable timeframes. Based on experience, a large deployment for a voice and data carrier with complex data and voice rating plans and a large subscriber base can take from nine to 12 months. Smaller deployments at less complex small to midsized service providers can last from three to six months.

21. The implementation of simplified rating plans should allow even small service providers to implement similar policies. Not only can automated notifications reduce the burden of support and

contact center costs, but notification systems also create an opportunity to upsell additional services – and this applies equally well to service providers of any size.

Prepaid services

22. If the intention of any rules is to avoid consumers being surprised by the size of their mobile services bill, then such rules, by definition, should not apply to prepaid service – the bill is fixed at the outset. The services purchased by the prepaid amount may expire more quickly than the subscriber expected due to unexpected levels of consumption but in no case would the subscriber be obliged to pay more than the prepaid amount.

23. An exception may exist with roaming charges. With roaming, consumption of any service uses up account credits at a faster rate, so at a minimum subscribers could be alerted to the fact that they are roaming and be notified of the higher rate of charge.

24. From a purely customer service perspective, Sandvine submits that it is a good practice for service providers (to both ensure transparency in communicating with subscribers while also capitalizing on potential upsell opportunities) to provide similar types of notification for prepaid users. A similar approach to the notification thresholds can be applied in this context when subscribers receive a notification when a certain minimum threshold for remaining credits is left on its account.

Scope

25. Sandvine submits that any Bill Shock rules should apply equally to any data, voice or bundled service providers (fixed and mobile). It may be a challenge to provide real time notifications for voice services however. For example, interrupting a call at 80% of the agreed limit in order to deliver the notification may not be the most user friendly approach. However, delivering an SMS message at that threshold is certainly an appropriate mechanism. Different access technologies and devices allow for simultaneous voice and SMS operations to take place therefore allowing for a notification to be delivered to a voice user in the middle of a call without interrupting the same.